

### **DETAILED ACTION**

**Due to an error in the non-final rejection filed 10/16/08, that non-final rejection is being withdrawn and the following non-final rejection is now pending. The response period is restarted with the following office action.**

#### ***Election/Restrictions***

1. Applicant's election without traverse of Species I (claims 1-19, 26-30, 44, and 45) in the reply filed on 7/22/08 is acknowledged.

Claims 20 thru 25, and 31 thru 43 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 7/22/08.

#### ***Drawings***

2. The drawings are objected to because there does not appear to be FIG. 56A, 56B, and 56C as described on page 2 of the applicant's specification. The applicant's figures do contain a FIG. 56 but not these other figures. Further, if these figures do exist, the applicant is reminded that a PRIOR ART label is required since it appears from the applicant's specification that such figures refer to prior art. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the

appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 thru 19, 44, and 45 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Johnson 5,654,566. Johnson discloses (see, for example, FIG. 4) a spin injected FET (spin transistor) 100 comprising ferromagnetic film 110/S, and ferromagnetic film 116/D. Johnson does not explicitly state that the spin direction of the conduction carriers being changed so as to vary the transfer characteristics of the spin transistor, and an operating point being changed based on the transfer characteristics, thereby reconfiguring a function. However, this is believed to be an inherent property given that Johnson discloses a spin transistor wherein the ferromagnetic film 110/S is the source region and

made of a ferromagnetic material as well the ferromagnetic film 116/D being the drain region and made of a ferromagnetic material. Since Johnson discloses the same structure as claimed (see claims 2, and 10), it follows that it would have similar properties. Where the claimed the prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. In re Best, 562 F. 2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

However, if applicant can show that the claimed feature is not inherent, it would still have been obvious to one of ordinary skill in the art at the time of invention was made to have the spin direction of the conduction carriers being changed so as to vary the transfer characteristics of the spin transistor, and an operating point being changed based on the transfer characteristics, thereby reconfiguring a function, since it has been held that the provision of adjustability, where needed, involves only routine skill in the art. In re Stevens, 101 USPQ 284 (CCPA 1954).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 26 thru 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. '566 as applied to claims 1-19, 44, and 45 above, and further in view of Ohmi et

al. 5,661,421. Johnson does not disclose a first circuit group includes a MOSFET of a first conductivity type or a spin MOSFET of the first conductivity type, and the second circuit group includes a MOSFET of a second conductivity type different from the first conductivity type or a spin MOSFET of the second conductivity type. However, Johnson discloses (see, for example, FIG. 1) inverter circuits constituted of neuron MOS transistors wherein the neuron MOS transistors comprise N-channel neuron MOS transistors 101, 103, and P-channel neuron MOS transistors 102, 104. It would have been obvious to one of ordinary skill in the art at the time of invention to have a first circuit group includes a MOSFET of a first conductivity type or a spin MOSFET of the first conductivity type, and the second circuit group includes a MOSFET of a second conductivity type different from the first conductivity type or a spin MOSFET of the second conductivity type in order to form inverter circuits with a CMOS structure.

#### **INFORMATION ON HOW TO CONTACT THE USPTO**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EUGENE LEE whose telephone number is (571)272-1733. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Parker can be reached on 571-272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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